



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,659	03/29/2004	Soon-Sung Yoo	8733.341.10-US	1134

30827 7590 10/23/2006

MCKENNA LONG & ALDRIDGE LLP  
1900 K STREET, NW  
WASHINGTON, DC 20006

EXAMINER
----------

KIM, RICHARD H

ART UNIT	PAPER NUMBER
----------	--------------

2871

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/810,659

Applicant(s)

YOO ET AL.

Examiner

Richard H. Kim

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 19-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wook (US 5,894,136) in view of Kim (US 6,043,511) and Suzuki et al. (US 5,844,255).

Wook discloses an array substrate for an active matrix type liquid crystal display device comprising a substrate (Fig. 6F, ref. 1); a gate line of the substrate, wherein the gate line includes a gate pad (Fig. 6F, ref. 4, col. 1, lines 49); a first insulating layer on the gate line and the substrate (6); a semiconductor layer on the first insulating layer and over a portion of the gate line (7); a data line over the first insulating layer and that crosses the gate line (9), the data line including a protruding portion that projects in a direction of the semiconductor layer and that forms a source electrode (9a), wherein an end portion of the semiconductor layer under the data line coincides to an end portion of the data line (col. 4, lines 44-47), wherein the data line further includes a data pad (col. 1, line 50); a drain electrode spaced apart from the source electrode and extending in a rectangular region partially defined by the gate and data lines (9b); a passivation layer on the drain electrode, the passivation layer having a drain contact hole that exposes the drain electrode (10); and a pixel electrode formed over the passivation layer, the pixel electrode electrically connecting to the drain electrode via the drain contact hole (11). However, the

Art Unit: 2871

reference does not disclose the device wherein the pixel electrode extends over a portion of the gate line so as to form a storage capacitor comprised of the pixel electrode, the gate line, and the first insulating layer, wherein the storage capacitor further includes a short-preventing part disposed between the pixel electrode and the gate line, wherein the storage capacitor includes a semiconductor layer and the passivation layer, wherein the short-preventing part has a stepped portion the overlaps a stepped end portion of the gate line.

Kim discloses a device wherein the pixel electrode extends over a portion of the gate line so as to form a storage capacitor (Fig. 10) comprised of the pixel electrode (70), the gate line (111), and the first insulating layer (20), wherein the storage capacitor further includes a short-preventing part disposed between the pixel electrode and the gate line, wherein the storage capacitor further includes a short-preventing part disposed between the pixel electrode and the gate line that includes a semiconductor layer (30) and the passivation layer (20), wherein the short-preventing part has a stepped portion the overlaps a stepped end portion of the gate line. Passivation layer 20 and semiconductor layer 30 has a single stepped portion from the substrate 100 to the edge of the passivation layer 20 and/or the semiconductor layer 30. That stepped portion overlaps stepped end of the gate line.

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the pixel electrode to extend over a portion of the gate line so as to form a storage capacitor comprised of the pixel electrode, the gate line, and the first insulating layer, wherein the storage capacitor further includes a short-preventing part disposed between the pixel electrode and the gate line, wherein the storage capacitor further includes a short-preventing part disposed between the pixel electrode and the gate line that includes a semiconductor layer and

Art Unit: 2871

the passivation layer wherein the short-preventing part has a stepped portion the overlaps a stepped end portion of the gate line, since one would be motivated to produce a display of high picture quality by providing a capacitor which would prevent leaking out of a signal before a second signal is applied.

Furthermore, Wook does not disclose that the data line is substantially the same width as and end portion of the data line.

Suzuki et al. discloses a device wherein the data line is substantially the same width as and end portion of the data line (col. 2, lines 60-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the data line to be is substantially the same width as and end portion of the data line since one would be motivated to limit an increase in power consumption (see col. 14, lines 65-67).

3. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wook, Kim and Suzuki et al. in view of Han et al. (US 5,926,235).

Wook, Suzuki et al. and Kim disclose the device previously recited, but fails to disclose that the short-preventing part further includes an ohmic contact layer, and a conducting material between the semiconductor layer and the passivation layer.

Han et al. discloses a device wherein the short-preventing part includes an ohmic contact layer (112), and a conducting material between the semiconductor layer and the passivation layer (130).

Art Unit: 2871

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an ohmic contact layer, and a conducting material between the semiconductor layer and the passivation layer since one would be motivated to reduce the number of masks used in the fabrication process (col. 2, lines 40-42).

### ***Response to Arguments***

4. Applicant's arguments filed 8/3/06 have been fully considered but they are not persuasive.
5. In response to Applicant's argument that neither reference teach the stepped portion of the short-preventing part overlapping a stepped portion of the gate line, Examiner submits that Wook does disclose that feature as described in the above rejection.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2871

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard H. Kim whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard H Kim  
Examiner  
Art Unit 2871

RHK

  
ANDREW SCHECHTER  
PRIMARY EXAMINER